

The use of indicator organisms is a fundamental monitoring tool to measure changes in water quality. Indicator organisms should be easily detected using simple laboratory methods, and must have the ability to demonstrate recent pollution levels.

WHAT IS THE MARYLAND BEACHES PROGRAM?

The Maryland Department of the Environment is working with local health departments to enhance beach water quality monitoring and improve the public notification process regarding beach water quality in Maryland. In October 2000, the U.S. Environmental Protection Agency (EPA) passed the Beaches Environmental Assessment and Coastal Health (BEACH) Act and provided funding to improve beach monitoring in coastal states. Maryland's Beaches Program was established to protect the health of Marylanders at public bathing beaches. The program has evolved further to comply with the requirements of the Federal BEACH Act of 2000. This program is administered by MDE; however, the responsibility of monitoring and public notification of beach information is delegated to the local health departments. To protect the health of citizens visiting beaches across Maryland, MDE's Beaches Program is working to standardize and improve recreational water quality monitoring in the State. Key objectives outline EPA's and Maryland's Beaches Program:

- Establish new water quality standards for bathing beaches
- Provide better public information regarding beach water quality
- Promote scientific research to better protect the health of beach users



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IMPORTANT TIPS

Swimming in natural waters is never risk free even with the best monitoring data available. To minimize the risk associated with swimming in natural waters, the following tips are provided:

Check with your local health department or MDE before swimming in natural waters.

Always take a shower or bathe after swimming.

Do not swim near storm drains located along the beach area.

Get involved and volunteer in local beach clean up efforts.

Do your part and encourage others to maintain picnic areas near the beach free of debris and garbage.

Do not encourage duck, geese, or seagulls by feeding them.

LOCAL HEALTH DEPARTMENTS

ANNE ARUNDEL:	..... (410) 777-5600
ALLEGANY:	..... (410) 777-5600
BALTIMORE:	..... (410) 887-3740
CALVERT:	..... (410) 535-5400
CARROLL:	..... (410) 876-2152
CAROLINE:	..... (410) 479-8030
CECIL:	..... (410) 996-5550
FREDERICK:	..... (301) 694-1029
GARRETT:	..... (301) 334-7777
HARFORD:	..... (410) 838-3047
KENT:	..... (410) 778-1350
MONTGOMERY:	..... (240) 777-3986
QUEEN ANNE'S:	..... (410) 758-0721
SOMERSET:	..... (443) 523-1700
ST. MARYS:	..... (301) 475-4330



Maryland Department of the Environment

Maryland Beaches

Learn about the efforts that your state and local governments are taking to ensure that you have water quality information regarding the recreational beach you plan to swim.



YOUR LOCAL BEACH

The beauty of Maryland's coastline and beach recreation areas attract many local citizens, as well as out-of-state visitors. While swimming in natural waters is never risk free, routine monitoring for bacterial level provides a surveillance system to identify potential health risks that may impact beach water quality. Maryland's Beaches Program is committed to improving beach water quality and providing valuable, timely information to the public on the water quality at Maryland's beaches.

WHAT IS A BEACH?

The BEACH Act allows states to define and designate marine coastal waters (including estuaries) for use for swimming, bathing, surfing, or similar water contact activities. The State of Maryland defines beaches in the Code of Maryland Regulations (COMAR). In COMAR, beaches means, “natural waters, including points of access, used by the public for swimming, surfing, or other similar water contact activities.” Beaches are places where people engage in, or are likely to engage in, activities that could result in the accidental ingestion of water. In Maryland, the beach season is designated from Memorial Day to Labor Day.

Some of the public beaches in Maryland are located in state parks. Below are some of their locations:

- Sandy Point State Park
- Assateague State Park
- Point Lookout State Park
- Gunpowder Falls State Park
- Elk Neck State Park

POLLUTION WATER QUALITY AND MONITORING

Good beach water quality is important for the safety and health of swimmers. Water quality can deteriorate due to pollution caused by runoff after storm events, trash, debris, or even sewage. Sewage sources include bypasses from sewage pumping stations, combined stormwater sewers, and sewage spills. Other sources that may cause poor water quality at beaches include failing septic systems, boat waste discharges, and wastes originating from pets, wildlife and farm animals that may runoff into the waters after storm events.



Disease-causing microorganisms or pathogens occurring naturally or associated with untreated sewage and animal waste may potentially pose a health threat to swimmers. These microorganisms are invisible to the naked eye and can be found in the form of bacteria, viruses, protozoa, or worms. Direct exposure to pathogenic organisms might cause illnesses such as gastroenteritis, with symptoms such as fever, diarrhea, and rashes. Because the number of potential pathogens is too vast to monitor individually, indicator organisms are monitored and used to assess recreational water quality. Indicator organisms such as *Enterococci* and *E. coli* are two types of bacteria commonly found in the gut of all warm-blooded animals and are used to indicate a recent source of pollution in recreational waters.

In the State of Maryland, water quality standards (WQS) and regulations for beaches are published in COMAR 26.08.09 and 26.08.02.03. Maryland’s recently amended and newly adopted regulations for all beaches, which include the following key points:

- Adoption of *E. coli* and *Enterococci* as the bacteriological indicators for beach monitoring (these replace the fecal coliform indicator);
- Prioritization of monitoring of beaches based on risk; and
- All beaches, whether permitted or not, now receive protection. (in the past, only permitted beaches required monitoring).

THE BEACH ACT

The BEACH Act, an amendment to the Clean Water Act, was enacted in October 2000 to enhance beach protection provisions. The law authorized federal funds in the form of grants to assist states, tribal, and local governments in developing and implementing monitoring and public notification programs for their coastal recreational waters. The law also required states to adopt improved water quality standards for pathogen indicators for recreational waters. The key components of the BEACH Act are:

- Consistent implementation among States
- Improved public notification process;
- Better health protection for bathers;
- Funding to states and local governments; and
- Allows the Environmental Protection Agency (EPA) to explore new pathogens and pathogen indicators for use in assessing risk in coastal waters.

GUIDANCE AND CURRENT ACTIVITIES

MDE, with input from local health departments, prepared a water quality monitoring and notification guidance document to assist county governments with the implementation of the BEACH Act. Another supporting document is the “National Beach Guidance and Required Performance Criteria for Grants,” published by EPA in 2002.

Once your local health department has identified recreational bathing areas (beaches), the next steps involve defining the physical extent of the beach, identifying potential pollution sources, determining beach usage, establishing monitoring priorities, designing a sampling strategy, and implementing notification procedures. Local health departments monitor water quality through sampling and the Department of Health and Mental Hygiene analyzes the samples for indicator bacteria. Current bacteria indicator laboratory methods require at least twenty-four (24) hours before the results are known. Under the BEACH Act, EPA is responsible for developing new and faster methods to detect pathogens and pathogen indicators of fecal contamination. EPA is conducting studies to measure temporal and spatial variation of bacteria because there is potential for considerable variability in measuring bacterial levels in recreational waters.

RESEARCH

Since stormwater runoff can be a major source of bacteriological contamination, MDE is exploring the relationship of storm events and elevated levels of contamination. The goal of this work is to establish risk advisories at local beaches based on rainfall. The use of rainfall in predicting bacteria levels is currently being used at beaches in the Great Lakes.

The U.S. Congress passed the BEACH Act in 2000 and established requirements for the U.S. EPA to award grants to states and local governments for beach monitoring and public notification, publish monitoring and notification guidance, and collect beach monitoring data.

RESOURCES FOR BEACH INFORMATION

You can contact MDE’s Beaches Program by calling 1-800-633-6101, x-3906. Beach users and the public can obtain information regarding beaches by contacting local health departments. A list of local health departments is provided.

Additional information about water quality monitoring and public notification, swimming-related and recreational water illnesses, and other related technical information is available at the following websites:

- U.S.EPA (www.epa.gov)
- Center for Disease Control and Prevention (www.cdc.gov)
- Maryland Department of Health and Mental Hygiene (www.dhmh.state.md.us)
- Earth911 (www.earth911.org).

